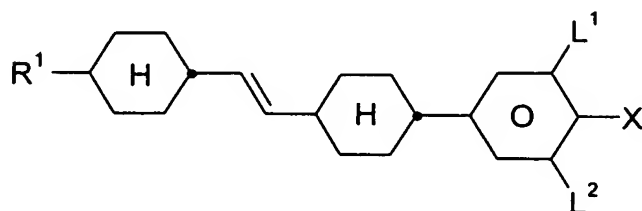


# Patent Claims

1. Liquid-crystalline medium based on a mixture of polar compounds, characterised in that it comprises one or more compounds of the formula I



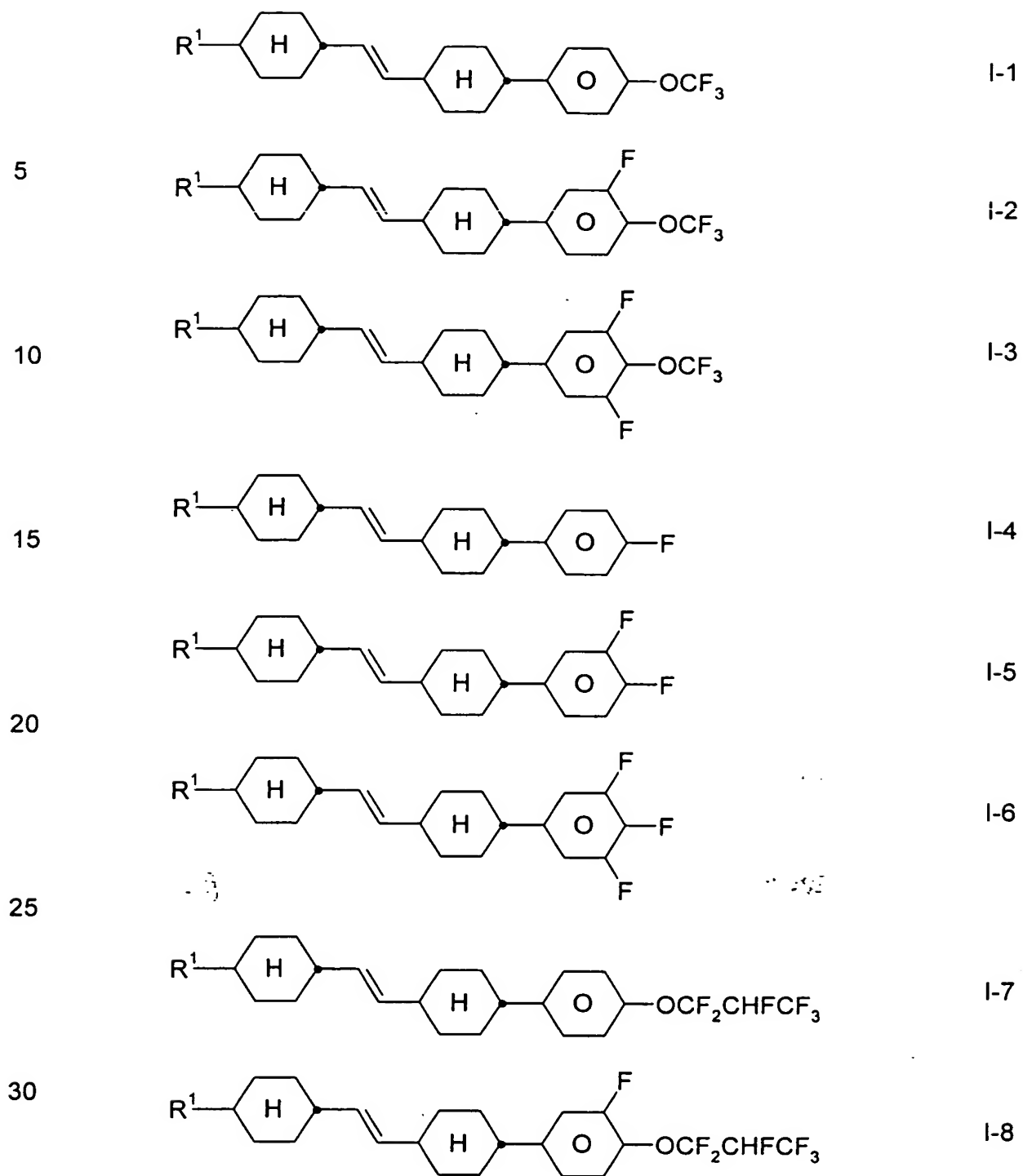
in which

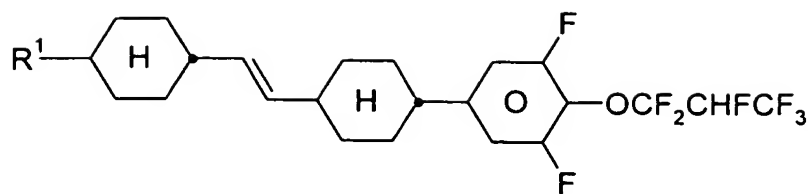
$R^1$  is a halogenated or unsubstituted alkyl or alkoxy radical having from 1 to 15 carbon atoms, where, in addition, one or more  $CH_2$  groups in these radicals may each, independently of one another, be replaced by  $-C\equiv C-$ ,  $-CH=CH-$ ,  $-O-$ ,  $-CO-O-$  or  $-O-CO-$  in such a way that O atoms are not linked directly to one another,

X is F, Cl, CN, a halogenated alkyl radical, a halogenated alkenyl radical, a halogenated alkoxy radical or a halogenated alkenyloxy radical having up to 6 carbon atoms, and

$L^1$  and  $L^2$  are each, independently of one another, H or F.

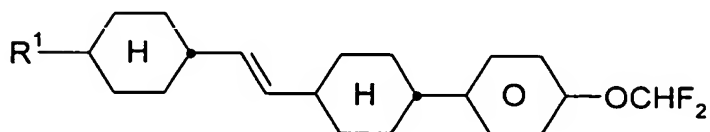
2. Liquid-crystalline medium according to Claim 1, characterised in that  $R^1$  = alkenyl in the compound of the formula I.
3. Liquid-crystalline medium according to Claim 1 or 2, characterised in that it comprises one, two or more compounds of the formulae I-1 to I-15





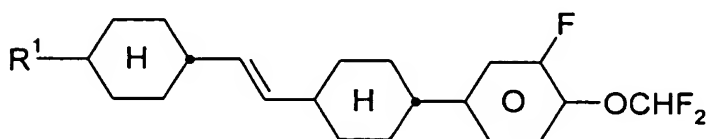
I-9

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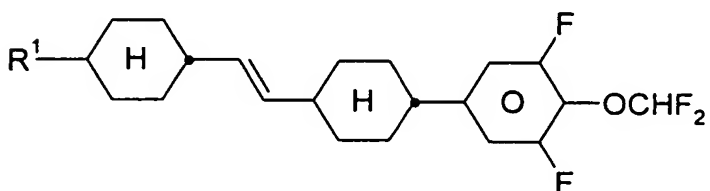
I-10

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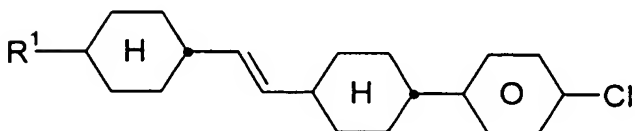
I-11

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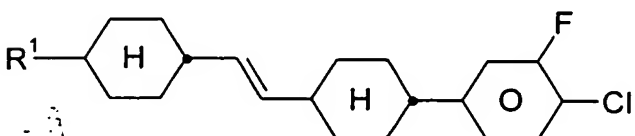
I-12

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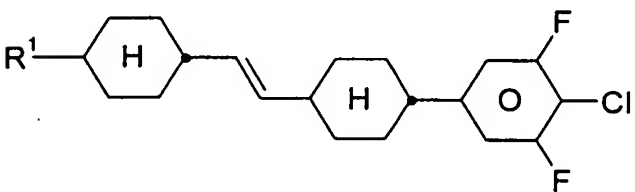
I-13

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I-14

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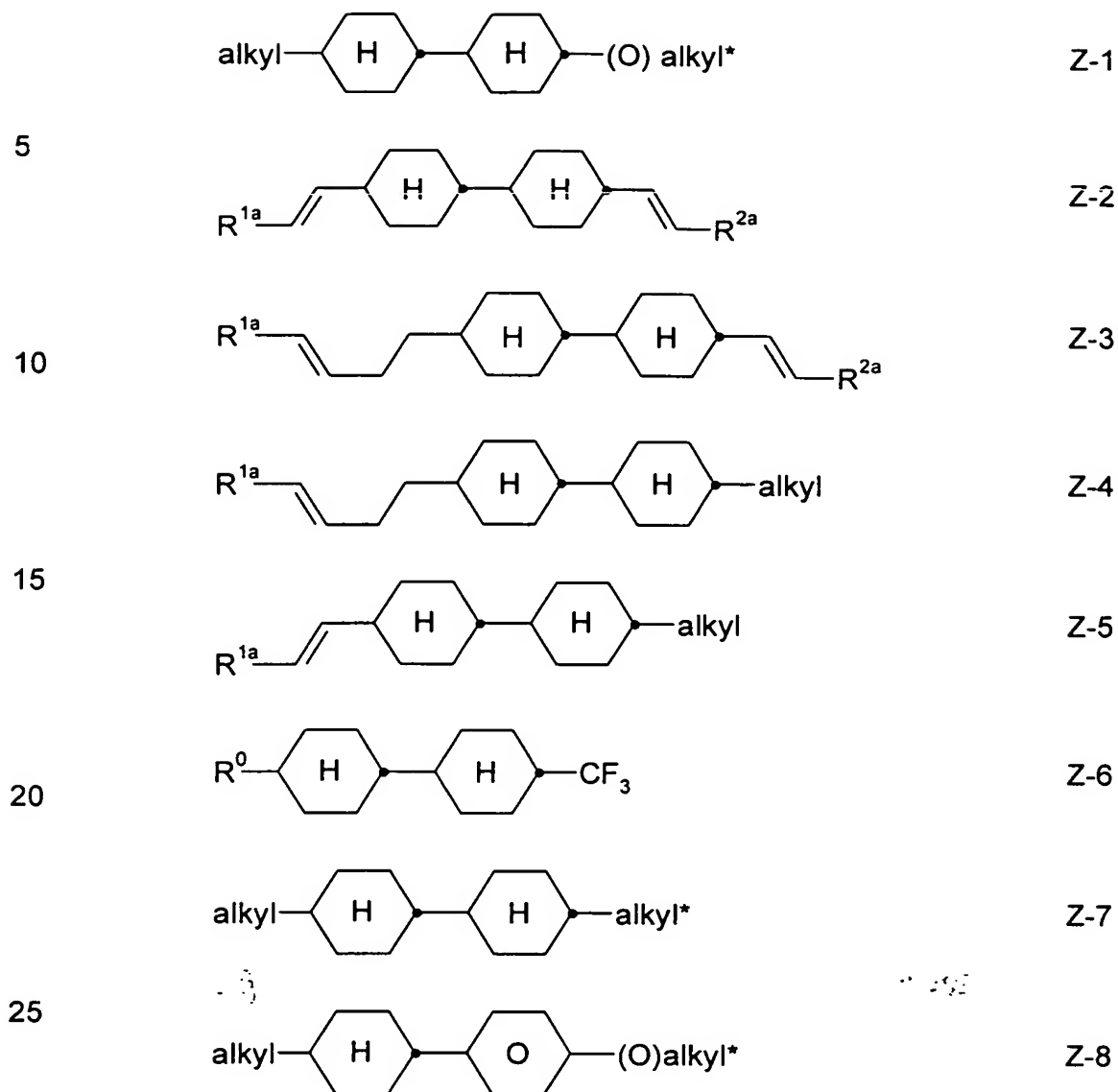


I-15

in which  $R^1$  is as defined in Claim 1.

4. Liquid-crystalline medium according to one of Claims 1 to 3, characterised in that it comprises one, two or more bicyclic compounds of the formulae Z-1 to Z-8

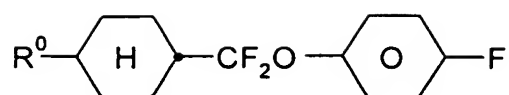
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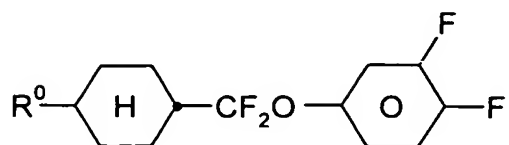
in which R<sup>1a</sup> and R<sup>2a</sup> are each, independently of one another, H, CH<sub>3</sub>, C<sub>2</sub>H<sub>5</sub> or n-C<sub>3</sub>H<sub>7</sub>, and alkyl and alkyl\* are each, independently of one another, a straight-chain or branched alkyl group having 1-7 carbon atoms.

5. Liquid-crystalline medium according to one of Claims 1 to 4, characterised in that it comprises one or more compounds of the formulae Q-1 to Q-15

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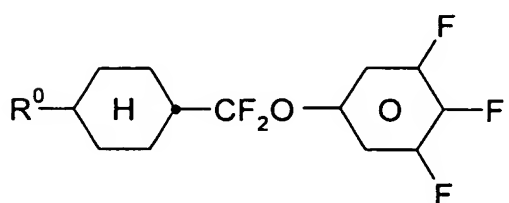


Q-1



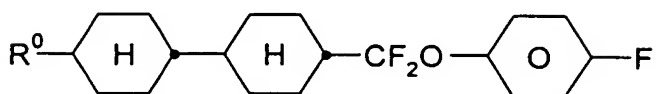
Q-2

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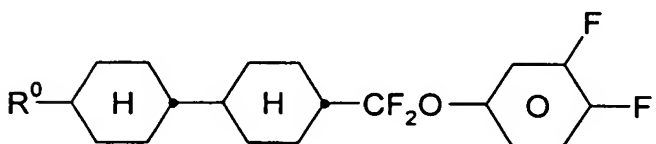
Q-3

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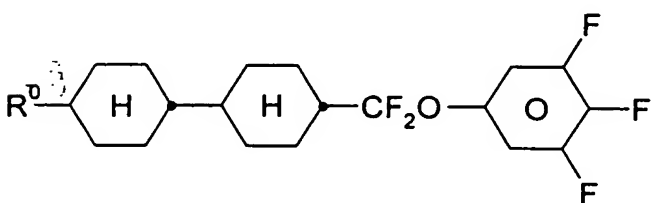
Q-4

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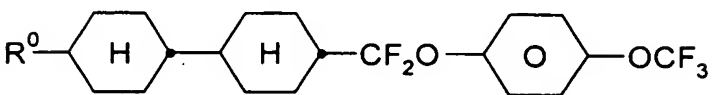
Q-5

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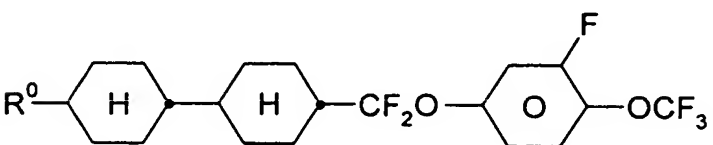


Q-6

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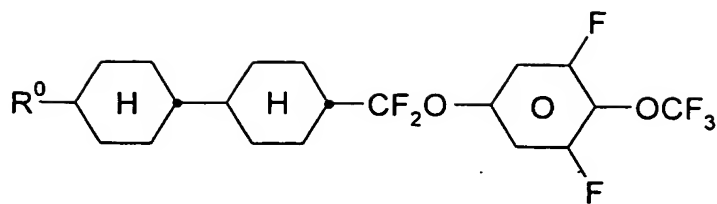


Q-7



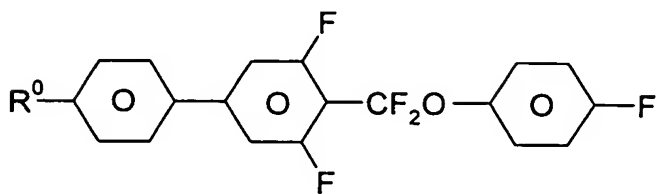
Q-8

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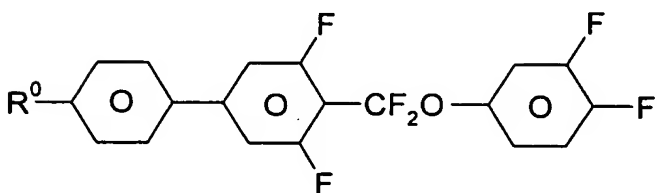
Q-9

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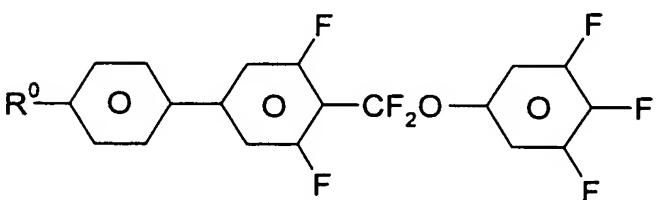
Q-10

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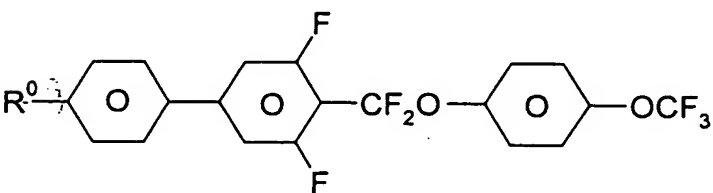
Q-11

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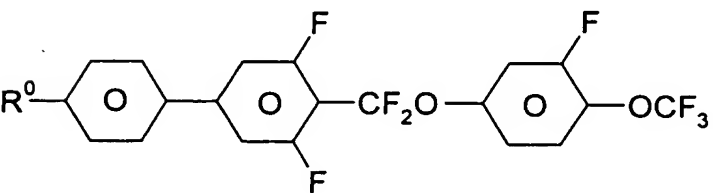
Q-12

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Q-13

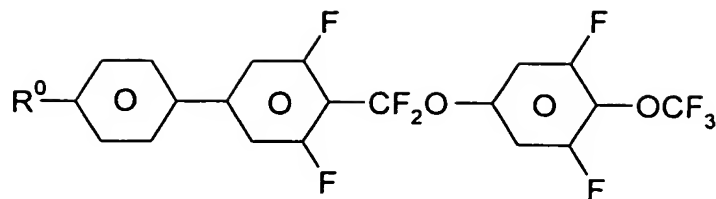
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Q-14

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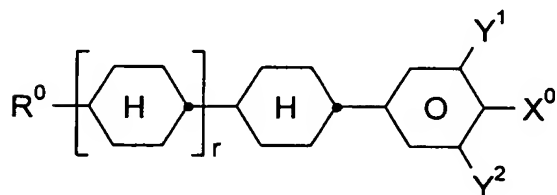


Q-15

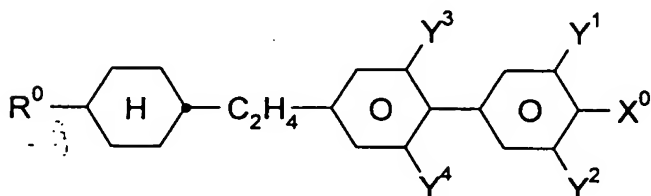
in which

$R^0$  is n-alkyl, oxaalkyl, alkoxy, alkenyloxy, fluoroalkyl or alkenyl, each having up to 9 carbon atoms.

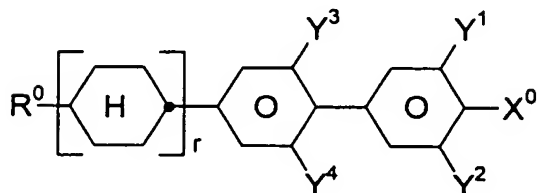
6. Liquid-crystalline medium according to one of Claims 1 to 5, characterised in that it additionally comprises one or more compounds selected from the group consisting of the general formulae II, III, IV, V and VI:



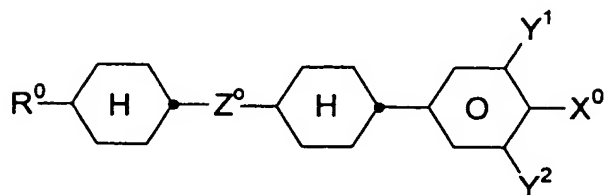
II



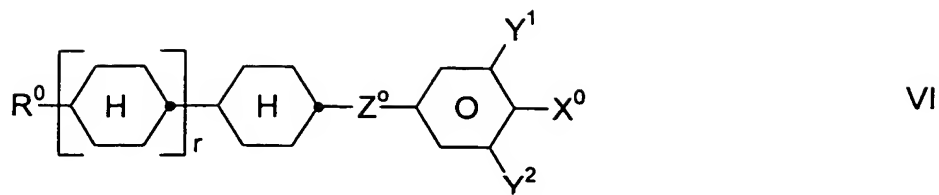
III



IV



V



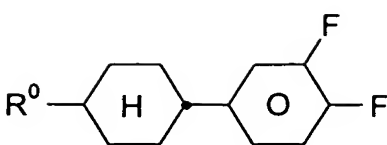
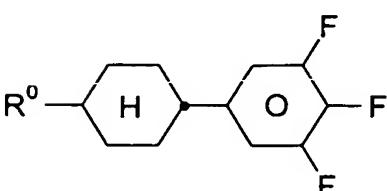
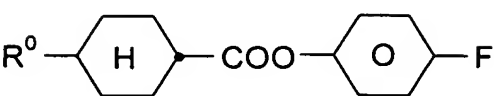
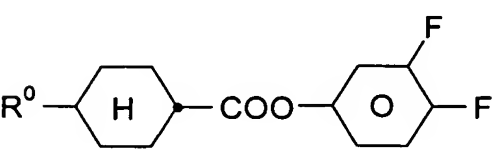
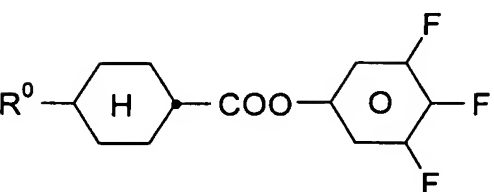
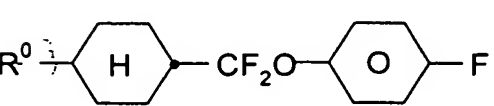
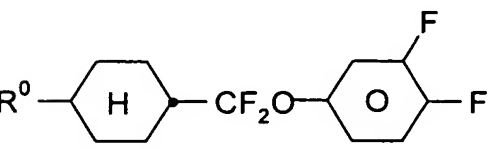
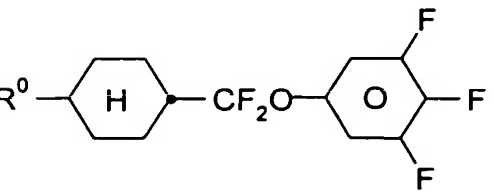
in which the individual radicals have the following meanings:

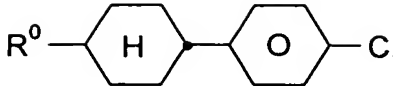
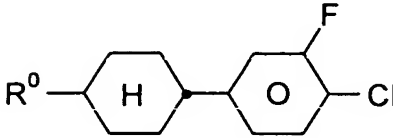
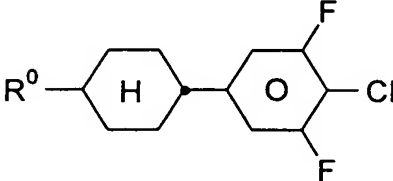
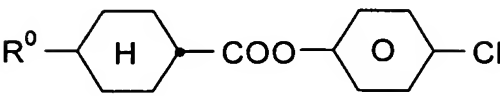
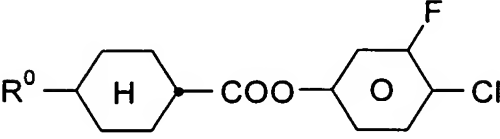
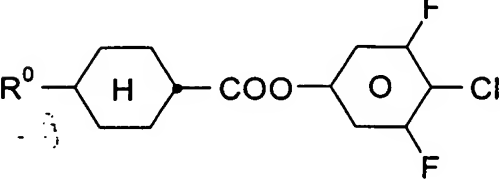
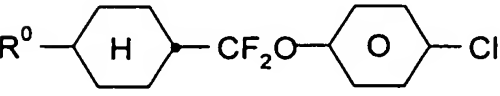
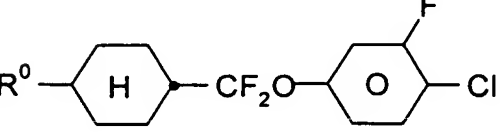
- 10  $R^0$  is n-alkyl, oxaalkyl, alkoxy, alkenyloxy, fluoroalkyl or alkenyl, each having up to 9 carbon atoms,
- 15  $X^0$  is F, Cl, halogenated alkyl, halogenated alkenyl, halogenated alkenyloxy or halogenated alkoxy having up to 6 carbon atoms,
- 20  $Z^0$  is  $-C_2F_4-$ ,  $-CF=CF-$ ,  $-C_2H_4-$ ,  $-(CH_2)_4-$ ,  $-OCH_2-$ ,  $-CH_2O-$ ,  $-CF_2O-$  or  $-OCF_2-$ ,
- $Y^1$  to  $Y^4$  are each, independently of one another, H or F,
- $r$  is 0 or 1.

- 25 7. Liquid-crystalline medium according to Claim 6, characterised in that the proportion of compounds of the formulae I to VI together in the mixture as a whole is at least 50% by weight.
- 30 8. Liquid-crystalline medium according to at least one of Claims 1 to 7, characterised in that it additionally comprises one or more compounds of the formulae K-1 to K-27

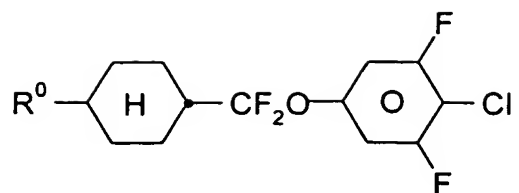




		K-2
5		K-3
10		K-4
15		K-5
20		K-6
25		K-7
30		K-8
35		K-9

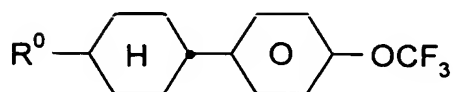
		K-10
5		K-11
10		K-12
15		K-13
20		K-14
25		K-15
30		K-16
35		K-17

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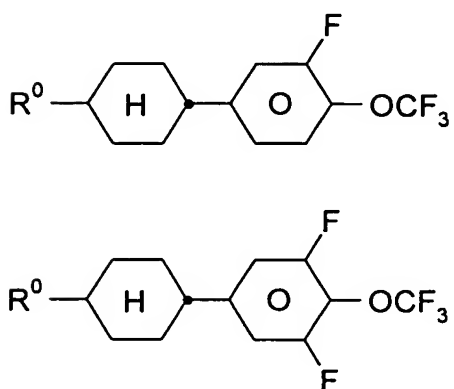
K-18

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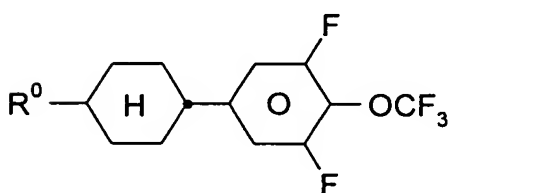
K-19

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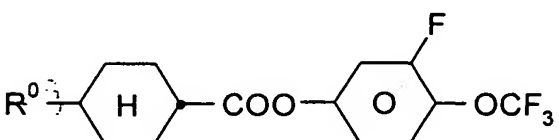
K-20

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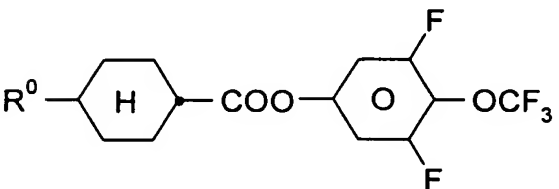
K-21

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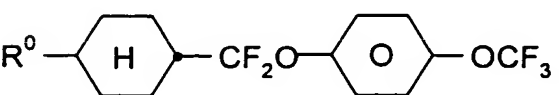
K-22

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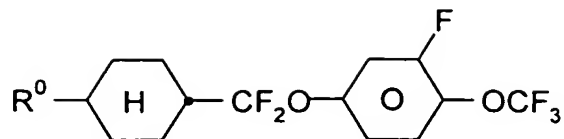
K-23

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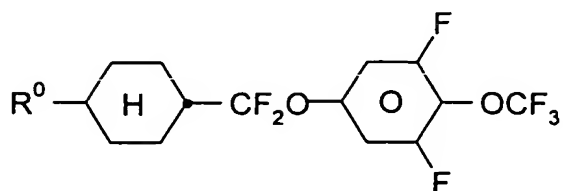
K-24

K-25



K-26

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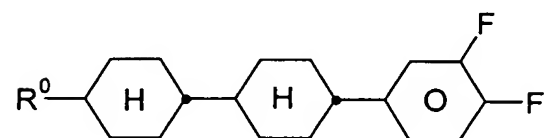
K-27

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in which  $R^0$  is as defined in Claim 6.

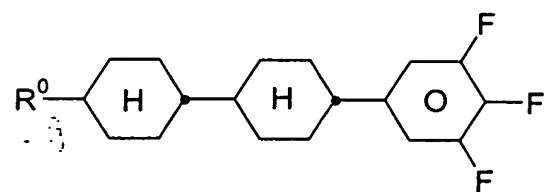
9. Liquid-crystalline medium according to at least one of Claims 1 to 8, characterised in that it comprises one or more compounds of the formulae IIa to IIg

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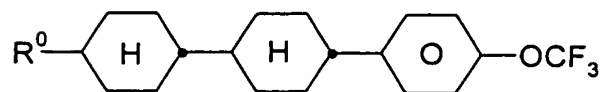
IIa

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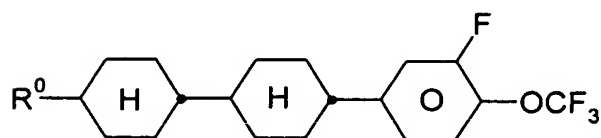
IIb

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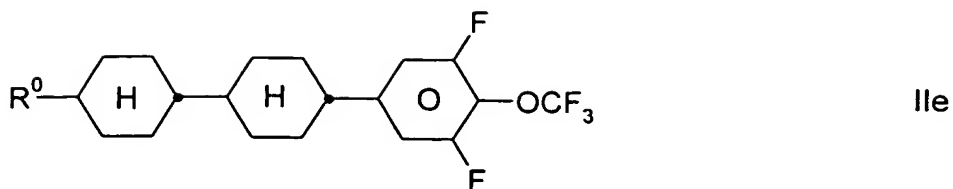
IIc

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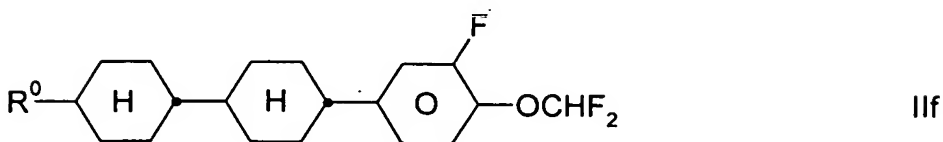


IId

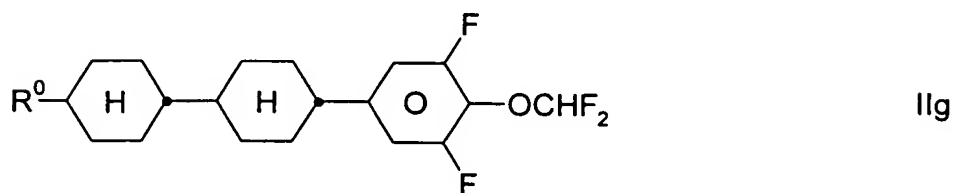
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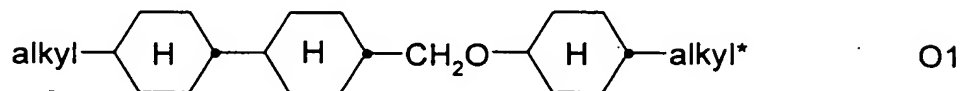


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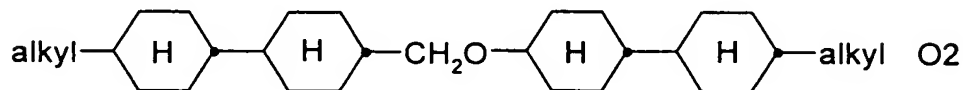
in which  $R^0$  is as defined in Claim 6.

10. Liquid-crystalline medium according to one of Claims 1 to 9, characterised in that it comprises one or more compounds of the formulae O1 and O2

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in which

alkyl and alkyl\* are each, independently of one another, a straight-chain or branched alkyl group having 1-7 carbon atoms.

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11. Liquid-crystalline medium according to at least one of Claims 1 to 10,  
characterised in that the proportion of compounds of the formula I in  
the mixture as a whole is from 0.5 to 40% by weight.
  - 5 12. Use of the liquid-crystalline medium according to at least one of  
Claims 1 to 11 for electro-optical purposes.
  13. Electro-optical liquid-crystal display containing a liquid-crystalline  
medium according to at least one of Claims 1 to 11.
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